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The impact of management consultants on public service efficiency

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Abstract

Public sector organisations often make use of management consultants in policy implementation, but we know little about the outcomes. The paper reports one of the first quantitative evaluations of the impact of consulting advice on efficiency of public sector organisations. We employ an extensive dataset covering English NHS acute care hospital trusts over a four-year period. Based on PCSEs estimations, the findings show a significantly positive relationship between consulting expenditure and organisational *in*efficiency. These results lend support to critical accounts of management consulting, highlighting the need for organisations to be circumspect in deciding whether and how to use these services.

Keywords: Management Consultancy; Public Sector Organisations; Healthcare; Service Improvement.

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Introduction

Around the world, management consultants have become increasingly visible and influential actors in the formulation and implementation of policies aimed to restructure public services (Lapsley and Oldfield, 2001; Leys, 1999; Saint-Martin, 2012). While policy consultants have helped to shape the purpose, direction and funding of services (Howlett and Migone, 2013), the declared aim of *management* consulting firms is to help clients in the reform of structures, governance and service provision. The latter advise and facilitate, but also act as an extra temporary resource in the implementation of reforms (NAO, 2006; NAO, 2016). Less formally, they often serve to legitimate decisions and changes to stakeholders (Sturdy, 2011).

Partly for these reasons, the global demand for management consulting advice from governments, public sector organisations and transnational agencies has grown exponentially since the early 1990s (Markham and O'Mahoney, 2013; Stone and Ladi, 2015). Within Europe, public sector management consulting use represents 13% of all management consulting turnover (compared to manufacturing and service sectors), although this varies from 9% in Germany to 22% in the UK (FEACO, 2015). In the UK, this use also differs between sub sectors, with Defence, Central Government and the National Health Service (NHS) being the largest users – respectively accounting for 28%, 26% and 14% of total consulting fee income (MCA, 2016).

Perhaps unsurprisingly, these trends have sparked much debate in academic, political and policy circles about the impact and contribution of management consultants. On the one hand, it is argued that while the use of consultants is not without risk, it can deliver value, helping to mobilise expertise that is unavailable internally, strengthen policy and

implementation capabilities and, most importantly, improve outcomes, such as efficiency and service quality (Hodge and Bowman, 2006; NAO, 2016). However, a contrary view is that management consultants have worked mainly to drive ideologically motivated new public management (NPM) reforms (Saint-Martin, 2005), especially privatisation (Beveridge, 2012). They have also exploited 'revolving door' networks (Leys and Player, 2011) and client insecurities to boost artificially demand for their services and the cost of reform. From this (critical) perspective, consultants are viewed as 'manipulators who are seeking to influence policy makers to make more money' (Saint-Martin, 2012; p. 458) using standardised products and are, therefore, unlikely to add significant value.

For the most part, these debates are not supported by robust empirical evidence. Despite growing calls for more formal policy evaluation (Martin, 2005; Pollitt, 2013), few 'systematic and even quantitative studies about the role of consultants in the public sector' have been conducted (Saint-Martin, 2012; p. 459). In part, this is due to the unavailability of reliable data allowing for the benchmarking of consulting services use against outcomes (Howlett and Migone, 2013). However, the dearth of robust assessments may also be explained by an unwillingness of both consultants and their clients to disclose information and submit to formal evaluation, given the (increasingly) politically sensitive nature of consulting projects and use in many countries (Sturdy, 2011).

In this article, our aim is to begin to address these concerns, illustrative case of the acute care hospital sector in the English NHS. As we saw earlier, healthcare has become one of the largest areas of public (and non-public) investment in management consulting, with a global fee income generated of $6 billion per annum (Kirkpatrick, Lonsdale and Neogy, 2016). In the English case, despite government pledges to make cuts, NHS yearly

expenditure on management consultants almost doubled from £313 million in 2010 to £640 million in 2014 (Oliver, 2016). However, while this growth has become a source of growing media and political concern (e.g. Labour Party, 2017), little is known about the precise impact of this advice. As Oliver (2016) suggests, NHS organisations have been either unable or unwilling to engage in the formal evaluation of management consulting, resulting in an absence of 'rigorous, peer reviewable, transparent data', p. 1.

Drawing on the wider consulting literature, we note that while formal evaluations of consulting advice are often problematic and always partial, they are feasible and can offer insight. Building on earlier work (Barthélemy, 2017; Phillips, 2000), our approach is specifically to focus on organisational *efficiency* outcomes. The pursuit of higher efficiency has historically been one of the key policy imperatives of the NHS, starting from the 1980s with the introduction of general management and, later, the establishment of an internal market and the related purchaser-provider split (Oliver, 2005). In the 2000s, similar goals motivated the adoption of national tariffs and rating systems to assess organisational performance (including financial performance). More recently, the pressure has been ramped up with a 2% annual efficiency gain (£9 billion in total) expected from providers in the five years up to 2021 (NHS England, 2016).

In what follows, we first look in more detail at the wider literature on management consultants to frame understandings of their activity and possible evaluation. We, then, turn to our own research, focusing on the impact of management consulting advice on the policy goal of improving organisational efficiency in the NHS. Consistent with sceptical and some critical perspectives on consulting use, the results of this analysis suggest that management consultants appear to have a *negative* impact on efficiency. This highlights

a number of important implications for future research and policy, in the English NHS and public sector organisations more generally. In particular, our results highlight the need for organisations to be more circumspect in decisions about whether and how to use management consultants.

Management consulting services: Drivers and consequences

In many countries, management consultants have played an important role both in the formulation and implementation of policies aimed at public management reform (Pollitt and Bouckaert, 2011; Saint-Martin, 1998). As early as 1968, the American consulting firm, McKinsey and Co., was controversially hired by the Bank of England for advice on its restructuring, following in the footsteps of other public bodies such as the Post Office, the British Railways Board, and the British Broadcasting Corporation (McKenna, 2006). Subsequently, consultancy influence in the public sector has increased, with policies linked to privatisation, the 'agencification' of central government activities (the Next Steps agencies) and the development of IT systems (Lapsley and Oldfield, 2001).

This deep involvement of management consultants has been especially marked in healthcare. In the English NHS, McKinsey and Co. again have been significant 'partners' in the development of reforms, leading to the creation of the internal market (O'Mahoney and Sturdy, 2016; Saint-Martin, 2012) and the establishment of Clinical Commissioning Groups (Wye, Brangan, Cameron, Gabbay, Klein, Anthwal and Pope, 2015). Other firms have provided advice on Foundation Trust (FT) applications and support for outsourcing, including the negotiation of Private Finance Initiative (PFI) contracts (Craig and Brooks, 2006; Lonsdale and Watson, 2007). More recently, consultants have played key roles in the development of Sustainability and Transformation Plans, a major system wide reform

in the English NHS which, according to some observers, has created ‘an industry for consultants’ (Alderwick, Dunn, McKenna, Walsh and Ham, 2016).

These trends, of course, raise wider questions about the likely impact that management consultants have had on policy implementation. Here it is possible to identify *two* opposing schools of thought. First is the view supported by some academics, and most practicing consultants, who stress the potentially value-adding benefits of consulting advice. Canback (1998), for example, drawing on transaction cost economics, notes how management consultants are able to provide scarce and valuable expertise in flexible ways that reduces the need for permanent staff. This may be especially true in the English health service which, contrary to popular opinion, employs relatively few managers (Kirkpatrick, Altanlar and Veronesi, 2017a; The King's Fund, 2011) and has limited internal consulting capabilities (Alderwick et al., 2016). Management consultants also promise relative legitimacy, claimed from an ‘independent’ and widely informed perspective based on their role as organisational outsiders (Sturdy, Handley, Clark and Fincham, 2009). In many contexts, this legitimacy is further enhanced by the status of consulting as an elite occupation, its private sector base and the reputation of leading firms – fuelling what Moore (2013) describes as the ‘business envy’ of some politicians and civil servants.

Overall, advocates of consulting use claim that it potentially benefits clients through a combination of *people* (access to specialist skills), *process* (knowledge on how to approach a task) and *perspective* (offering an independent, expert or innovative view) (NAO/Audit Commission, 2010). These arguments are typically framed in general financial terms as ‘value for money’ or relatively attractive ‘transaction costs’. In rare

instances, specific figures are provided. For example, the main UK body for consulting firms - the Management Consultancies Association (MCA) – claims that, on average, for every £1 spent on consulting fees, clients can expect £6 in return (MCA, 2010).

Perhaps unsurprisingly, these assertions have been contested by a second, more critical school of thought on the impact of management consultants (Sturdy, 2009). Aside from critics of the *content* of consulting advice (often highly standardised and lacking fit with client needs), this perspective highlights the agency of consultants themselves as fashion setters who rely on hyperbole and (often) un-substantiated claims to manufacture demand for their services (Jung and Kieser, 2012). The result is an artificially inflated uptake of costly and disruptive management consulting projects, beyond what the client needs (Sturdy et al., 2009). In the context of healthcare and local government, these costs may be accentuated by the 'predominantly market-orientated attitudes' of consultants (Leys, 1999) and relative absence of 'sector knowledge' (Saint-Martin, 2012).

In the English NHS, this more sceptical view is reflected in the growing media attention given to the rising cost of management consultants, high profile failures such as a huge NHS IT project (Campion-Awwad, Hayton, Smith and Vuaran, 2014) and an apparent lack of accountability. Specifically, consultancy firms have been criticised for their practices of gaining undue influence and fuelling unnecessary demand through sophisticated selling techniques and back stage social relationships with decision makers (O'Mahoney and Sturdy, 2016). This concern is increased by the existence of revolving doors of employment, backwards and forwards between these firms and government agencies (Craig and Brooks, 2006).

These risks of costly and unnecessary consulting use might be further accentuated by poor procurement by some clients and their inability to translate and exploit the advice they receive (NAO/Audit Commission, 2010). A study by Wye and colleagues on NHS commissioning bodies, for example, suggests that the contribution that management consultants make depends heavily on the development of 'knowledge exchange strategies' that facilitate client involvement and learning (Wye et al., 2015). If anything, these risks may be compounded in public services (including the NHS) because of the compulsory procurement of consultants in some areas (Kirkpatrick et al., 2016), and the reliance on more open ended (and arguably more expensive) payment systems based on 'time and materials', rather than fixed price of payment by results (Markham and O'Mahoney, 2013).

Hence, there is an ongoing debate about the likely impact of management consulting usage on policy implementation, in the NHS and more widely (Howlett and Migone, 2013). On the one hand, the argument is that management consultants provide much needed expertise at lower costs for clients and ultimately enhancing the effectiveness and efficiency of services (MCA, 2017). However, against this view, critics suggest that consulting advice is unlikely to improve public services. They also note how the wasteful and sub optimal use of consultants may outweigh the cost savings of using external expertise and potentially result in greater inefficiency. As a report published by the Royal College of Nursing in the UK (RCN, 2009) concluded: 'questions need to be asked…about whether external consultancy offers value for money' (p. 6). In what follows, we seek to address this question, focusing on the specific case of the acute care hospital trust sector in the English NHS.

Methods

In the wider literature on management consultants, problems of evaluation are frequently highlighted (Gable, 1996; Nachum, 1999; Sturdy, 2011). Some of these originate from the difficulty of accessing reliable data on inputs and outcomes, with both clients and consulting firms often failing to collect or record this information or doing so consistently (NAO/Audit Commission, 2010). A more general question is whether it is even possible to quantify the impact of consulting interventions at all, given the highly subjective and often co-produced nature of their services and the difficulty of isolating projects and controlling for other explanatory variables. Partly for these reasons, some studies have relied primarily on subjective client evaluations of performance (MCA, 2010; Nachum, 1999)

Notwithstanding these concerns, other research has highlighted the potential to generate approximate, independent and quantitative indicators of the impact of management consultants. Examples of this are studies that have sought to use conventional return on investment analysis (Phillips, 2000) or which explore the impact of management consulting engagements on share prices (Bergh and Gibbons, 2011; Solomon, 1997). More recently, a study by Barthélemy (2017) has evaluated the impact of technical consultants on the quality of their clients' products, using a variety of data sources from the Bordeaux wine industry. In this study, it is noted how the recommendations of consultants can sometimes have an 'immediate impact', making it 'possible to detect a causal linkage between the use of consultants and winemaking quality' (p. 1179).

In this article, we build on this latter strand of work. Specifically, our approach has three distinct characteristics. First, as a primary outcome indicator (dependent variable), we

focus on levels of client (hospital trust) efficiency. As we noted earlier, improving efficiency is a major policy goal in the NHS and key rationale for using management consultants. Although efficiency is not the only measure of consulting success (Nachum, 1999), some, even if only marginal, advance in this area is to be expected in most projects,. According to the MCA's 'value of consulting' model, the contribution of consultants is summarised under three main headings: the knowledge they bring, their ability to help deliver projects and the skills of individual consultants. These contributions, in turn, are assumed to generate various outcomes for clients such as: reduced costs, greater certainty of success of projects, increased speed of delivery, reduced pain of implementation, increased return on investment, better use of technology and more sustainable use of resources (MCA, 2010). Importantly, all of these outcomes imply some improvement in the level of organisational efficiency, either directly or indirectly (Gable, 1996).

Second, as a proxy for the use of management consultants (the resource input side), we focus on overall levels of expenditure as the main explanatory variable. In doing so, we acknowledge the obvious limitations of this measure. It may not, for example, fully capture actual levels of consulting influence or involvement with clients in terms of the length of projects or resources devoted (consulting hours) (Hodge and Bowman, 2006). Nor do annual figures for expenditure account for variations in the types of consulting projects and the different purposes and intended outcomes these might have (Nachum, 1999). However, at the same time, using a single, all-encompassing measure of expenditure has certain advantages. Besides the obvious convenience of collating the data, with a relatively standardised measure, it becomes easier to compare performance across a large population of organisations. This expenditure measure also avoids the

pitfalls of trying to differentiate between the various kinds of management consulting activities, especially given likely variations in the way these activities are described and recorded between organisations (NAO, 2006).

Lastly, our approach attempted to explore the impact of management consulting on client efficiency over time. A criticism frequently made of initiatives to evaluate formally the impact of consulting advice is the problem of identifying the 'right' time span (Nachum, 1999). Consulting projects may have variable duration (sometimes running into years) and an even longer gestation period before any results are achieved - especially in terms of quality improvements. While these problems will always be present in any quantitative evaluation, by using longitudinal data to explore the relationship between consulting inputs (levels of expenditure) and outcomes (efficiency), with lag analysis over time, they can at least be mitigated. The use of a longer time span also accounts for ebbs and flows in consulting expenditure related to the life cycle of consulting projects.

In what follows, we describe how this approach was operationalised in terms of the data used, sample characteristics, key (dependent, explanatory and control) variables and method of analysis.

Data sources

To implement this approach towards evaluation, we collected data from a number of publicly available sources of information. First, we looked at the financial statements of individual hospital trusts, which are published in their annual report and accounts. Other data employed in the study were accessed through the Health and Social Care Information Centre (now called NHS Digital). Included here were the: Hospital Episode Statistics

database (providing information on the activity of hospital trusts, such as number of patient admissions); NHS Bed Availability and Occupancy Data (offering data on bed numbers and overall usage); Hospital Estates and Facilities Statistics (providing information on the type of trust – for example, teaching or non-teaching – and the number of hospital sites); and the NHS Reference Costs Data Set. The latter is a repository of information used to establish prices for NHS-funded services in England that contains indicators of efficiency and market-related costs of running services (see below).

To allow for comparisons over time and similarities in healthcare activity, we restricted our attention to only hospital trusts operating in the acute care sector in England. This meant excluding from the study other NHS organisations operating in primary care - such as clinical commissioning groups - mental health trusts and organisations providing ambulance services. Each hospital trust has a unique NHS identifier that allows to track the relevant information across databases.

Sample

Because annual expenditure on consultancy services, our main independent variable, was only available for all hospital trusts from the period 2009/10 to 2012/13, the study employed a panel with four years of data. The total sample ranged from 128 acute care trusts in 2009/10 to 120 in 2012/13, with the difference accounted for by organisational mergers. Consequently, the panel covered the almost totality of acute care trust population in England with the total number of observations amounting to 495 over the four-year period. In the year 2012/13, the hospital trusts in the sample employed a total of 572,900 full-time employees, registered 11,735,355 patient admissions, and had a total expenditure of approximately £39 billion (that is, 44% of all NHS spending). The

cumulative cost of hiring management consultants stood at £166.8 million per annum for the whole sample of trusts (nearly £600 million for the full period investigated).

Variables

To operationalise our main dependent variable of organisational efficiency for each hospital trust, the study focused on data from the Reference Cost Index (RCI). This source records the average unit cost to the NHS of providing defined diagnosis and treatment services to NHS patients. Specifically, it compares the average cost of the case-mix of each NHS trust with the average cost of the same case-mix in the sector as a whole (Llewellyn and Northcott, 2005). This means that a hospital trust with a RCI of 100 has average unit costs equal to the national average, whereas, for instance, an organisation with an index of 110 has unit costs 10% higher than the national average. As such, higher outcome values of the RCI correspond to lower levels of organisational efficiency. In this way, the RCI gives an indication of both process and allocative efficiency, capturing invested resources and activities performed in the delivery of front-line services (Kirkpatrick, Vallascas and Veronesi, 2017b; Marini, Miraldo, Jacobs and Goddard, 2008).

To corroborate the results of the main analysis, two further accounting measures of organisational efficiency were used. The first was created by employing the total hospital trust expenditure as reported in the financial statements divided by the size of the hospital (proxied by the number of beds) – hereafter 'adjusted cost efficiency'. In the same way as for the RCI, higher outcome values for this variable meant *lower* levels of organisational efficiency. A second accounting-based measure of efficiency was calculated by dividing the total expenditure by the size of the workforce. However,

because comparable findings were obtained using this alternative measure, the results are not reported below and are available on request.

For our main explanatory variable, we drew from the financial accounts of each hospital trust mentioned earlier. These accounts record annual expenditure on 'Consulting services' as defined by the NHS Manual for Accounts. Specifically, consulting expenditure refers to 'objective advice and assistance relating to strategy, structure, management or operations of an organisation in pursuit of its purposes and objectives' (Department of Health, 2013; Annex 5). Under this umbrella falls a wide range of activities, including: the management of services, process management and rationalisation of services, and strategic consulting for financial matters (for example, relating to private finance initiative deals). Importantly, this line of expenditure is distinct from spending on outsourcing (such as estates) and the audit function, which is sometimes performed by consulting firms, but billed separately.

A number of control variables were included in the study to isolate the impact of consulting expenditure on efficiency and rule out other confounding influences. First, a dummy variable identifying teaching trust status was employed. Teaching hospitals normally deal with a more complex variety of interventions and treatments, with likely implications for efficiency. Second, trusts were divided into a binary group according to their legal status. Important here is whether (or not) they had converted into more autonomous FTs, which face stronger external pressure to demonstrate efficiency. Third, we controlled for the size of hospital trusts. This was measured using the overnight number of beds available as an indicator of the maximum capability of each organisation in terms of patient stay. Fourth, as a proxy for the overall activity levels in hospital trusts,

the number of admissions moderated by the number of full-time employees was introduced in the regression estimations. Hospital trusts with higher activity levels – essentially 'busier' trusts - are intuitively less likely to be able to optimise efficiency. Fifth, we accounted for possible slack in resources ('Operational slack'), which, following Salge (2011), was calculated as the difference between 100 (or full bed occupation) and the average percentage of occupied beds. Hospital trusts with greater slack have potentially more scope for efficiency gains than organisations run at full (or close to) capacity. As a sixth control, we considered trust structural complexity, proxied by the number of sites in each trust. The assumption here was that hospital trusts with greater structural complexity (more sites) would face greater challenges in how to optimise resources across different locations (Kirkpatrick et al., 2017a).

A final set of controls related to the variable costs of running each hospital trust, linked to geographical location. To capture this dimension, using two proxies the level of possible competition between hospital trusts for services and resources in a given location was considered. First, we calculated the Herfindahl Index (HHI) of providers' concentration based on the number of admissions for each hospital trust in contiguous areas. Second, we included the NHS market forces factor, using information from the Reference Costs database (see above). Essentially, this provides an internal indicator of unavoidable cost differences between hospital trusts (for example, labour or estates costs) depending on their geographical location. The assumption here was that trusts operating in more expensive areas (e.g. London) will face qualitatively different challenges with regard to managing resources.

Analytical approach

To investigate the effect of consulting expenditure on overall efficiency levels of acute care hospital trusts, we used Panel Corrected Standard Errors (PCSEs) estimations. PCSEs handle possible contemporaneous correlation of errors (i.e. being correlated across trusts within the same time period) and heteroscedasticity in the data (i.e. having unequal variances across different subsets of hospitals). In a panel data design, error terms may not be independent among different time periods, resulting in possible serial correlation problems (Hicks, 1994). This means that for each individual trust the association between independent and dependent variables in the last year of analysis could be driven by (or at least being correlated with) the relationship between variables in the previous year and so forth. Therefore, to address this issue, through PCSEs we obtained estimations with lagged dependent variables as controls. Furthermore, the Prais-Winsten Generalized Least Square method was adopted to effectively deal with possible serial (auto)correlations in the errors (Beck and Katz, 1995). The same estimation technique was employed for the robustness tests using our alternative measure of efficiency ('Adjusted cost efficiency').

Results

Descriptive statistics

Table 1 reports the descriptive statistics relating to the sample of trusts over the period 2009/10 to 2012/13. On average, these organisations provided acute care using in excess of 750 beds and comprised around six units. Half of the organisations in the sample were FTs, while less than a fifth were teaching hospitals. Table 2 shows that higher levels of consulting expenditure were likely to be associated with teaching hospitals, larger trusts and hospitals that are exposed to lower competition. By contrast, busier trusts (in terms of activity) and FTs tended to spend less on management consultants. Additionally, it is

worth noticing that in our sample, all but five hospital trusts made use of consulting advice, albeit with varying degrees of expenditure.

Table 1 here

The Pearson bivariate correlations between the variables of interest, shown in Table 2, were well below the normal threshold levels. However, to alleviate concerns of potential multicollinearity, we employed Variance Inflation Factor (VIF) analysis, the results of which, further supported our choice of variables and confidence in the results of the regression estimations.

Table 2 here

Main analysis

With reference to the main research question concerning the impact of management consultants on efficiency, Table 3 reports the results of the analysis using PCSEs. As mentioned, we introduced a lag of the dependent variables in the different specifications of the regression model (for both 'operational efficacy' and 'adjusted cost efficiency'). This allowed us to control for the effect of previous levels of efficiency on current efficiency outcomes and, in the process, better isolate the impact of the main independent variable: expenditure on 'consultancy services'. As shown in the table, in all models we found a significant and positive relationship between higher expenditure on consulting services and *lower* efficiency levels (i.e. higher inefficiency with regard to the raw values of the two dependent variables employed). This applied to both the RCI measure and the alternative accounting based measure of efficiency. We also obtained qualitatively similar

results running the estimations with normalised values (through rescaling) of expenditure on consultants.

It is, of course, possible that any improvements generated from consulting advice would need time to produce anticipated impacts on efficiency (Nachum, 1999). To try to account for this possibility – that consulting advice would have a delayed impact (beyond the same financial year) on overall efficiency - further tests were conducted using the lag values of the main independent variable ('Consulting services t-1'). However, as can be seen in Table 3 (models 2 and 4), the results of this test confirmed the main findings.

In economic terms, what these findings suggest is that, on average, for every £100,000 spent on management consultants there is a negative impact on the RCI of approximately 0.1 point and an increase in total costs of roughly £880. If the average annual expenditure on consulting services for a hospital trust is considered (around £1.2 million), then each one would be roughly £10,600 worse off per annum (in addition to the consulting fees paid) in terms of overall costs when deciding to employ management consultants instead of using these financial resources in alternative ways (opportunity costs).

As one might expect, the analysis presented in Table 3 also highlights some other factors associated with general levels of efficiency in trusts. These included FT status – a finding confirmed by other research (Marini et al., 2008; Veronesi, Kirkpatrick and Vallascas, 2014) – and greater activity levels (perhaps leading to economies of scale). The results were somehow contradictory with reference to the market forces factor as this variable appeared to have a positive effect (in terms of improving efficiency) on RCI scores but negative on the overall trust expenditure (adjusted by size). Interestingly, size of the

hospital trust and levels of competition did not have any significant influence on efficiency.

It is also important to note that the explanatory power (goodness of fit) of the regression models is particularly high: close to the maximum for models 1 and 2 where the dependent variable is the RCI. Implied by this is that the regression model is capturing almost all possible factors that affect efficiency levels in hospital trusts and, thus, we can alleviate concerns of omitted variable bias. As mentioned earlier, these results are not affected by issues of multicollinearity between the variables employed, as clarified by the VIF analysis (see Table 2).

Table 3 here

Additional considerations and robustness tests

These results are important, not least as the first assessment of the impact of consulting use on efficiency in healthcare (or indeed in any context). However, given the characteristics of the methodology adopted and the relatively restricted timeframe of the dataset, they also need to be interpreted with caution. Obvious questions here relate to the direction of causality and to the wider impact of consulting advice on other outcomes (such as service quality).

While our analysis is helpful in identifying a strong association between expenditure on management consultants and organisational (*in*)efficiency, there is clearly a risk of endogeneity due to reverse causality. This would mean that historically poor performing trusts are more likely to hire management consultants to improve their (already lower)

financial performance. In the wider management consulting literature, one finds little support for this idea that consulting services are used mainly by low performing organisations – therefore being essentially non-random (Bergh and Gibbons, 2011; Sturdy, 2011). On the contrary, this literature suggests that the reverse may often be true, especially given the mix of rationales for working with consultants - with political and legitimacy considerations often as important as hard economic calculations. This conclusion is also supported by the various tests conducted to minimise risks of reverse causality in our own study.

First, as explained earlier, all PCSEs estimations were run with lag values of the dependent variables employed. In doing so, we were able to isolate in the main analysis the effect of management consultants (proxied by expenditure) on efficiency from the likely impact of previous (historical) levels of hospital trust performance. Second, we ran PCSEs estimations with lag values of the consulting expenditure variable (at t_{-1}). As shown in Table 3 models 2 and 4, these tests indicated that previous years of consulting expenditure have a statistically significant (and negative in economic terms) association with efficiency levels. While not a sufficient finding to prove strong causality, this at least reduces the likelihood that consulting expenditure is explained by low efficiency levels. On the contrary, the test reveals that it is prior expenditure on management consultants that seems to influence inefficiency.

Lastly, the findings of a third test conducted (not reported here for the sake of brevity) explicitly considered reverse causality. Specifically, in an earlier stage of the project we regressed management consulting expenditure on efficiency levels to investigate potential antecedents of hospital trusts' decisions to hire management consultants. The results of

the PCSEs estimations were, in this instance, not statistically significant. Although not directly relevant to our main research question, the outcomes of this test further reinforce the conclusion that the main variables of interest were unlikely to be endogenously related.

As noted, a second concern is whether the use of consultants was equally negative for other salient performance outcomes. In existing research, it is noted how management consulting advice may represent a 'double edged sword' for clients, helping to improve some outcomes (such as knowledge acquisition) while having a negative impact on others (such as uniqueness of service offering) (Barthélemy, 2017). In our own case, this might also be true, for example if increases in costs (inefficiency) linked to the use of management consultants help to increase slack in the system and, in the process, free up resources that are used to enhance service quality.

To address this possibility, a further test was conducted investigating the relationship between expenditure on consultants and the overall patient experience of the treatment provided by hospital trusts. To operationalise this variable, we drew on publicly available hospital trust performance data reported in the annual NHS Inpatient Experience Survey (run since 2001). We focused on this indicator because it captures changes in process quality (relating to information provision, relationship with patients, cleanliness of the hospital facilities and so on) which might conceivably be influenced by consulting advice. In the event, the outcomes of the PCSEs estimations (which are not reported here for the sake of brevity, but are available on request) did not yield any significant result. It, therefore, seems unlikely that management consulting advice is having the mixed effects

on outcomes discussed earlier, at least not where this single measure of service quality (patient experience) is concerned.

Concluding discussion

Our main point of departure in this paper is the growing public sector market for management consulting advice, both in the UK and elsewhere (FEACO, 2015; Markham and O'Mahoney, 2013). This is set against a wider backdrop of NPM reforms, with consultants becoming 'partners in governance', deeply embedded, through networking and lobbying strategies, in the formation of public policies (Saint-Martin, 2012). In this context, building on studies in non-public settings, our aim has been to provide a formal evaluation of the impact of management consulting advice on organisational efficiency in the particular case of the English NHS.

The results of our analysis show that NHS acute care hospital trusts in England each spent £1.2 million per annum on average on management consultants between 2009/10 and 2012/13. This tended to be higher in the case of large trusts and teaching hospitals and lower in the case of FTs. Our principal finding, however, is that despite these costs, the use of management consulting is *not* statistically associated with improvements in efficiency. On the contrary, our results appear to suggest that higher levels of spending on management consultants have had a statistically *negative* effect on two separate indicators of efficiency ('operational' and 'adjusted cost'). While, in financial terms the effects are not great (£880 of lost efficiency for every £100,000 spent), the implication is that, in aggregate terms and without considering the embedded opportunity costs, expenditure on management consultants seems to have the reverse effect to what is intended by policy makers and users.

A key strength of this study arises from the data and study design, both of which enhance confidence in the findings. In particular, we have been able to account for the large majority of the hospital trust population in England, using two standardised indicators of efficiency. A related advantage is the use of longitudinal data over four years, allowing us to capture possible roll out effects of management consulting projects over time and strengthen our confidence in the direction of possible causality. The robustness of these findings is enhanced by the inclusion of lag analysis which helps to minimise the possible impact of longer term historical trends in the efficiency/inefficiency of hospital trusts. By focusing on hard indicators of efficiency, our study also avoids many of the pitfalls associated with relying on subjective client assessments (MCA, 2010; Sturdy, 2011) or on more indirect outcome indicators such as changes to the share price (Bergh and Gibbons, 2011; Solomon, 1997).

Notwithstanding these strengths, it is important to acknowledge certain caveats. Chief amongst these is the crude nature of the main explanatory variable used in the study: expenditure on consulting services. This measure does not account for differences in the level of involvement of consultants in client organisations or for variations in the types of projects they engage in or associated price differences. A study of management consulting activities conducted by the RCN (2009) in a sample of 296 NHS organisations, for example, identified a wide variety of projects, only some of which are directly focused on developing patient services. Nor do our findings rule out the possibility that, under particular circumstances, the use of management consulting advice could be both desirable and useful. Indeed, it is claimed that some projects bring performance gains to users, including the NHS (Wye et al., 2015).

Lastly, from these results, we are unable to say precisely why spending on management consultants is having negative consequences for efficiency, although it is possible to speculate. On the one hand, as we saw, the fashion based view highlights the active role of management consultants in pushing services when there is no need for them, or where the quality of the product is lacking or inappropriate (Jung and Kieser, 2012). From this perspective, rising inefficiency is explained by: high prices; the incompetence of management consultants or poor quality of their products; over-consumption of their services and; associated levels of disruption. However, clearly much will also depend on the role played by procurement professionals and other managers on the client side in justifying the need for consulting (e.g. through formal business cases), supporting projects and implementing (or not) any recommendations given (Sturdy, Wylie and Wright, 2015). A 'sub optimal deployment' of consultants may also results from a lack of clarity or vision at the heart of government about the future shape and objectives of the public sector (MCA, 2017).

These caveats aside, this study makes an important contribution both to research and policy debates. First, is to offer what is, to our knowledge, one of the first independent, quantitative evaluations of the impact of management consultants on efficiency in the public sector. In this regard, the study fills an important gap in the literature by responding to numerous calls for more formal evaluations of consulting, both within policy contexts and beyond (Saint-Martin, 2012; Sturdy et al., 2009). Second, our results help to advance debates regarding the impact of management consultants in the NHS and (arguably) the public sector more generally. Contrary to the claims made by clients, consulting firms and their representative bodies, management consultants are *not* significantly improving

the efficiency of NHS organisations. In this respect, our findings lend support to both critical and cautious accounts which have questioned the value of management consulting involvement in public services (Craig and Brooks, 2006) and the legitimacy of revolving door relationships which have increased dependency on it (Leys and Player, 2011).

Lastly, these results have important implications for policy. Given financial constraints facing the NHS, an obvious question is whether it is appropriate to continue using consulting advice at the current level. This is especially true given the opportunity costs associated with the £1.2 million per annum (on average) being spent by hospital trusts in England. If redeployed elsewhere, how might the NHS use this resource, for example, to employ more doctors and nurses or managers who might be able to effect change internally? In practical terms, these questions highlight the need for NHS organisations to articulate a stronger business case for the use of external consultants, especially in situations where demand may be artificially inflated by revolving door relationships or motivated by ideological considerations (Hood and Dixon, 2015). The risks (of lost efficiency) identified in this study also reinforce the need for more effective procurement of consultants – a concern already noted by agencies, such as the Cabinet Office, NAO (2006) and NHS TDA (2014) – and for better client handling of projects to develop 'knowledge exchange strategies' (Wye et al., 2015). The latter, as we saw, might promote learning and the effective utilisation of consulting expertise.

Although we have focused on the specific experience of the English NHS, these implications are arguably relevant to other organisations in the UK and more widely. As we noted in the introduction, the public sector accounts for a large share of the fee income of management consulting firms in many European countries (FEACO, 2015) and

beyond, in North America especially. Many of the challenges faced by client managers in the NHS are also reported in these contexts, for example in UK central government (NAO, 2016) and Canadian public services (Saint-Martin, 2012). As such, while we need more work to evaluate the impact of consultants in other (non-NHS, non-UK) settings, the broader policy and practice implications are to some extent already generalisable.

In future, as well as extending this research to other healthcare organisations (such as in primary care) and public services, it would be useful to distinguish between different types of consulting project. Further work, perhaps using qualitative or mixed methods, might also explore the specific conditions that influence the effectiveness of consultants and the roles played both by client side managers (including procurement) and their sponsors and consultants themselves in this process. Lastly, it would be useful to compare the effectiveness of external management consultants with other alternatives (such as in house consulting services). The latter are frequently assumed to be more costly (Canback, 1998) – requiring governments to 'retain full-time armies of strategy officials and internal advisory capacity' (MCA, 2017; p. 60) - but is this necessarily the case? These additions and extensions will help to understand the results presented here and further inform future policy and practice in the English NHS and public services more generally.

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Table 1: Descriptive statistics

	N	Mean	Median	S.D.	Min	Max
Operational efficiency	490	98.463	98.125	5.583	83.690	115.620
Adjusted cost efficiency	486	391.490	373.731	110.934	35.350	881.800
Consultancy services	491	1,202.717	844.000	1,093.458	0.000	5,645.000
Teaching status	495	0.166	0.000	0.372	0.000	1.000
FT status	495	0.473	0.000	0.500	0.000	1.000
Size	495	751.283	694.685	340.275	221.530	2,196
Activity	478	21.854	22.380	3.662	11.780	32.430
Operational slack	487	0.137	0.140	0.048	0.030	0.256
Structural complexity	491	5.894	3.000	7.652	1.000	49.000
HHI	495	795.209	794.910	377.478	426.460	2,130.730
Market forces factor	494	1.016	1.000	0.070	0.920	1.250

Note: Adjusted cost efficiency and consultancy services figures in £000s.

Table 2: Pearson bivariate correlation matrix

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1)	Operational efficiency										
(2)	Adjusted cost efficiency	0.234***									
(3)	Consultancy services	0.233***	0.417***								
(4)	Teaching status	0.209***	0.435***	0.274***							
(5)	FT status	-0.143***	-0.264***	-0.151***	0.068						
(6)	Size	0.211***	0.044	0.351***	0.422***	-0.039					
(7)	Activity	-0.262***	-0.437***	-0.211***	-0.463***	0.051	-0.149**				
(8)	Operational slack	0.065	-0.223***	-0.145***	-0.047	0.218***	0.110*	0.090*			
(9)	Structural complexity	-0.006	0.076*	0.054	0.111**	0.094**	0.225***	-0.210***	0.062		
(10)	HHI	0.027	-0.069	0.093**	0.085*	-0.018	0.255***	-0.093**	-0.050	0.148**	
(11)	Market forces factor	-0.112**	0.417***	0.198***	-0.010	-0.203***	-0.210***	-0.005	-0.217***	-0.079*	-0.122***
	VIF	1.39	1.84	1.52	1.18	1.55	1.45	1.16	1.16	1.10	1.40

Note: *** = $p < 0.01$, ** = $p < 0.05$, * = $p < 0.1$.

Table 3: Does higher expenditure on management consultants lead to greater efficiency levels?

	(1)	(2)	(3)	(4)
Dependent Variable:	Operational efficiency		Adjusted cost efficiency	
Consultancy services	0.0008***		0.0117***	
	(0.0002)		(0.0037)	
Consultancy services t-1		0.0007***		0.0081*
		(0.0003)		(0.0044)
Teaching status	0.9652	1.1909	76.3486***	79.8848***
	(0.9175)	(0.9095)	(13.4338)	(13.9535)
FT status	-1.7822***	-1.6106***	-33.2469***	-28.6655***
	(0.6248)	(0.6309)	(8.4918)	(9.0166)
Size	-0.0001	-0.0001	-0.0199	-0.0146
	(0.0010)	(0.0010)	(0.0143)	(0.0151)
Activity	-0.1942**	-0.2295***	-4.9115***	-5.7032***
	(0.0841)	(0.0853)	(1.1315)	(1.1868)
Operational slack	8.5725	8.0856	-90.6480	-114.7067
	(5.4097)	(5.3526)	(71.2576)	(72.9816)
Structural complexity	-0.0575*	-0.0587*	0.5074	0.4042
	(0.0308)	(0.0311)	(0.3955)	(0.4008)
HHI	0.0002	0.0001	-0.0067	-0.0098
	(0.0009)	(0.0009)	(0.0106)	(0.0106)
Market forces factor	-18.8890***	-19.4169***	356.4839***	345.4581***
	(4.9498)	(5.0986)	(81.8286)	(84.2978)
Year dummies	Yes	Yes	Yes	Yes
Observations	412	416	413	415
R-squared	0.912	0.908	0.542	0.542
Wald-Chi2	91.97***	87.24***	482.12***	459.11***

Note: Period: 2009/10 - 2012/13. *** = p < 0.01, ** = p < 0.05, * = p < 0.1.
Robust standard errors in parentheses. PCSEs estimations include first lags of the dependent variables.